Dynamics of low income and deprivation in SoFIE

A descriptive analysis of the Survey of Family Income and Employment

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Disclaimer and data access

- Access to the data used in this presentation was provided by Statistics New Zealand under conditions designed to give effect to the security and confidentiality provisions of the Statistics Act 1975.
- The results presented are the work of the researchers, not Statistics New Zealand.
- We take full responsibility for the results, and Statistics New Zealand will not be held accountable for any error or inaccurate findings within this presentation.
- All figures and graphs are based on numbers rounded to base five.
Objective of this work

- Much discussion of poverty recently
- Research of temporal dynamics presents a more comprehensive understanding of poverty than point-in-time studies
- UK longitudinal research shows:
  - people experience different types of poverty
  - the majority of people who experience poverty move out of poverty
  - many more people experience poverty over a period of time than they do at any one moment in time

Survey of Family, Income and Employment - “SoFIE”

- Statistics New Zealand
- 8-year longitudinal
- First wave, 1 October 2002
- Collects annual information on demographics, income, labour force participation, education, household and family structure
- Assets and liabilities - waves 2, 4, 6, and 8
- Health - waves 3, 5, and 7
Attrition

Higher drop out in:

- Younger (age 0 to 24) and older (age 65+)
- Māori, pacific respondents
- Sole parents, not in a family
- Lower Income at Wave 1

Low Income

- Equivalised Household Income (nominal)
- Low income = <60% median household income at each wave
- Also <50% median household income
- Duration of low income = \( \sum \text{lowinc}_t \) (range: 0 to 7)
- Chronic low income = average income below average low income line ($27,000)
# Income Mobility

<table>
<thead>
<tr>
<th></th>
<th>Q1</th>
<th>Q2</th>
<th>Q3</th>
<th>Q4</th>
<th>Q5</th>
<th>Totals</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>W1</strong></td>
<td></td>
<td></td>
<td></td>
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<td></td>
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<tr>
<td>Q1</td>
<td>0.653</td>
<td>0.226</td>
<td>0.066</td>
<td>0.034</td>
<td>0.021</td>
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<td>Q2</td>
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<tr>
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<td>0.069</td>
<td>0.165</td>
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<tr>
<td>Q4</td>
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<td>0.538</td>
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<tr>
<td>Q5</td>
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<td>0.055</td>
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<tr>
<td><strong>Totals</strong></td>
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<td>21785</td>
<td>21920</td>
<td>21855</td>
<td>21840</td>
<td>108720</td>
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</table>

 equivalised household income
# Income Mobility

<table>
<thead>
<tr>
<th></th>
<th>Q1</th>
<th>Q2</th>
<th>Q3</th>
<th>Q4</th>
<th>Q5</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>W7</td>
<td>0.450</td>
<td>0.289</td>
<td>0.137</td>
<td>0.087</td>
<td>0.039</td>
<td>3755</td>
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<tr>
<td>Q1</td>
<td>0.250</td>
<td>0.349</td>
<td>0.228</td>
<td>0.119</td>
<td>0.055</td>
<td>3755</td>
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<tr>
<td>W1</td>
<td>0.134</td>
<td>0.185</td>
<td>0.313</td>
<td>0.256</td>
<td>0.112</td>
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<tr>
<td>Q3</td>
<td>0.096</td>
<td>0.108</td>
<td>0.208</td>
<td>0.337</td>
<td>0.253</td>
<td>3750</td>
</tr>
<tr>
<td>Q4</td>
<td>0.069</td>
<td>0.070</td>
<td>0.114</td>
<td>0.202</td>
<td>0.543</td>
<td>3760</td>
</tr>
<tr>
<td>Q5</td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>3755</td>
<td>3755</td>
<td>3755</td>
<td>3760</td>
<td>3755</td>
<td>18785</td>
</tr>
</tbody>
</table>

equivalised household income
Percentage in low income - Depth

![Bar graph showing percentage of people in low income compared to 60% and 50% median equivalised household income across different weeks (W1 to W7).]
Percentage in low income – by age

<60% median equivalised household income
Percentage in low income by ethnicity

<60% median equivalised household income
## Persistence of low income over one year (% whole sample)

<table>
<thead>
<tr>
<th>Low income w2</th>
<th>Low income w3</th>
<th>Low income w4</th>
<th>Low income w5</th>
<th>Low income w6</th>
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</thead>
<tbody>
<tr>
<td><strong>67</strong></td>
<td>61</td>
<td>56</td>
<td>57</td>
<td>52</td>
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<tr>
<td>Low income w3</td>
<td>70</td>
<td>61</td>
<td>60</td>
<td>57</td>
</tr>
<tr>
<td>Low income w4</td>
<td>56</td>
<td>69</td>
<td>65</td>
<td>59</td>
</tr>
<tr>
<td>Low income w5</td>
<td>57</td>
<td>65</td>
<td>73</td>
<td>65</td>
</tr>
<tr>
<td>Low income w6</td>
<td>52</td>
<td>59</td>
<td>65</td>
<td>64</td>
</tr>
<tr>
<td>Low income w7</td>
<td><strong>51</strong></td>
<td>58</td>
<td>60</td>
<td>70</td>
</tr>
</tbody>
</table>
Number of waves in low income

<60% median equivalised household income
Chronic Low Income (<60%)
Chronic Low Income (<50%)

CPI adjusted equivalised household income

W1 W2 W3 W4 W5 W6 W7

% low income

Transitory  Chronic

CPI adjusted equivalised household income
Deprivation

- NZ Individual Index Deprivation (Salmond 2006)
  - 8 measures of deprivation
    - forced to buy cheaper food, so that they could pay for other things needed
    - been unemployed for 4 or more weeks during the last 12 months
    - put up with feeling cold, to save on heating costs
    - received help in the form of clothes or money from a community organisation
    - gone without fresh fruit and vegetables in the 12 months so that they could pay for other things needed
    - continued wearing shoes with holes in them because they could not afford to replace them
    - received an income tested benefit
    - made use of special food grants or food banks, because they did not have enough money for food.

- “In deprivation” = 3 or more measures
- Deprivation duration = $\Sigma Dep_t$ (range: 0 to 3)
Percentage in deprivation (NZiDep $\geq 3$)

% deprivation (3+)

Whole pop
0-17

W3
W5
W7
Percentage in deprivation (NZiDep \( \geq 3 \)) by ethnicity and age
Waves in deprivation by age

- Whole population
- Age 0-17
Waves in deprivation by ethnicity and age

![Graph showing waves in deprivation by ethnicity and age.](image-url)
Persistence of deprivation over two years (% whole sample)

<table>
<thead>
<tr>
<th>In deprivation w5</th>
<th>In deprivation w7</th>
<th>In deprivation w5</th>
<th>In deprivation w7</th>
</tr>
</thead>
<tbody>
<tr>
<td>In deprivation w5</td>
<td>44</td>
<td>44</td>
<td>58</td>
</tr>
</tbody>
</table>
Mean deprivation by low income

<60% median income
Impact of changes in individual factors

- Changes in social marital status (becoming not partnered) leads to low income and higher levels of deprivation

- Changes in labour market activity (moving to not working) leads to low income and higher levels of deprivation
Impact on Health

- Increasing numbers of years in low income leads to worsening health
- Increasing numbers of years in deprivation leads to worsening health
- Deprivation has a stronger impact on health than low income
Data Caveats

- Income data issues
  - Not disposable income, not currently “poverty”
  - Missing personal income
  - Measurement error

- SoFIE Attrition

- Counts not weighted to the NZ population
Key Messages

- There is much income mobility
- Point-in-time rates are underestimated
- Over 50% of the population experience low income at least once over 7 years
- Over 20% of the population has chronic low income
- There is increasing deprivation with increasing time spent in low income
Acknowledgements

- Statistics NZ
- Funding
  - Health Research Council of NZ
- All of the SoFIE participants

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